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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781,411

02/18/2004

Alfredo Li Preti

60,137-245

3061

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CARLSON, GASKEY & OLDS, P.C.  
400 WEST MAPLE ROAD  
SUITE 350  
BIRMINGHAM, MI 48009

EXAMINER

LUK, EMMANUEL S

ART UNIT

PAPER NUMBER

1722

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/15/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/781,411

Applicant(s)

LI PRETI ET AL.

Examiner

Emmanuel S. Luk

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 6-9, 18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Schluter (3975128).

Schluter teaches a mold valve chamber (20) having an output port (17) on the first axis (Fig. 1) with a mold valve piston (16) and air introduction system (25,34), an injection chamber (1) on a second axis (Fig. 1), an injection piston (3) that is movable in the injection chamber (A), and **clearly** defines a portion of the mold valve chamber inner perimeter (Figures 2 through 4, emphasis on Figure 4). The blower (25) can be operated to inject air into the chamber and thus into the mold, therefore it is selectively operated AND is capable of injecting air into the chamber. Schluter clearly teaches the claimed structures.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 3-5, 10, and 15-17, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schluter (3975128) in view of Walker (3655208) and Jepsen (3373999).

Schluter fails to teach the piston configuration.

Walker teaches metal pistons (16) (Col. 1, lines 5-11) having a piston ring (26; seal ring). The seal ring being made from a nonmetallic material (Teflon, Col. 1, lines 9 and 10; Col. 3, line 40) and being surrounded by two portions ("sandwiched") (See Figures 1 and 2). The seal ring will provide an 'interference fit' within the inner perimeter of the chamber. The ring is easy to maintain and economically construct for a nonmetallic material by Walker with minimum waster material (Col. 2, lines 18-20)

Jepsen also teaches pistons and piston ring designs in which a seal ring (24) is sandwiched between two piston sections (18, 16), the ring material can be polyimide resin, epoxy, Teflon, phonlic resins, nylon, carbon-graphite compositions (Col. 3, lines 49-53)

It would have been obvious one of ordinary skill in the art to modify Schluter with the nonmetallic portion between two metallic portions as taught by Walker, or Jepsen, because it provides a seal for the piston to prevent leakage.

In regards to claims 10, 15, and 17, the claims do not teach a structural limitation and merely states the air injection system communicating in response to a position of a mold valve piston. The limitation provided is akin to a process of using the apparatus in response to a condition and provides no structural limitation.

In regards to 4 and 5, Schluter shows a mold valve piston in the extended position (Fig. 1), the passage of the air inlet is blocked by the mold valve piston. Thereby, Schluter teaches a mold valve piston that is selectively movable to block the air inlet.

In regards to the arcuate segment, Schluter clearly teaches defining the a portion of the mold valve chamber and thereby it would have been obvious for one of ordinary skill in the art to modify the injection piston end to conform to the shape of the mold valve chamber and respective piston to thereby allow for a shape that will conform to the rest of the interior surface because it would allow for movement of the mold valve piston through the chamber without interference.

### ***Response to Arguments***

6. Applicant's arguments, filed 9/14/06, with respect to the rejection(s) of claim(s) 3 and 16 under Schluter in view of Takizawa have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further

consideration, a new ground(s) of rejection is made in view of Schluter in view of Walker and Jepsen.

The applicants argue that Schluter fails to teach the claimed apparatus with the piston having the face that is not moveable into the quieting chamber 12. This overlooks the second portion of the chamber wherein the piston actually forms an inner perimeter located at the opening 5 of the chamber 12, Examiner recommends closer inspection of Figures 1, 5, and 6 of Schluter. It clearly shows that Schluter anticipates applicant's claimed apparatus.

In regards to Schluter in view of Takizawa, the applicants argue that it would not be obvious to provide Schluter with the seal rings of Takizawa and that Takizawa does not disclose the piston is metallic and the seal rings are non-metallic. The new rejection with Schluter in view of Walker and Jepsen fully teaches the claimed portion of the non-metallic portion being between metallic portions. Takizawa was not fully clear on the material used though it does show seal rings that are between the piston portions, it was inferred that the piston portions are made from metal and the seal rings were non-metallic as accustomed to standard materials used in the art. The new rejection shows the use of the materials and how long it has been used in the piston arts of the use of seal rings as evident by Walker and Jepsen.

In regards to claim 4, 5, 10, 15, and 17, these are dependent upon claims 1 and 6 that applicants have stated are allowable for the reasons stated forth for claims 1 and 6. Since Examiner disagrees with the applicant's arguments for claims 1 and 6, dependent claims 4, 5, 10, 15, and 17 remain rejected.

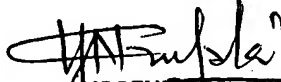
**Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tsuge (4449721) and Hanlon (5779243).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Fridays from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
YOGENDRA N. GUPTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

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